

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) Chemical vapor layer deposition apparatus comprising:
 - ~~a first and second precursor gas source having a sources, first valve and second valves connected thereto to said first and second precursor gas sources;~~
 - a second precursor gas source having a second valve connected thereto;
 - ~~a purge gas source, said purge gas source having a third valve connected thereto; , said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle,~~
 - wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;
 - ~~a reaction chamber, said reaction chamber being connected to the said first, said second, and said third valves;~~
 - a gas phase reaction trap connected to the said reaction chamber; said , the trap having an inlet and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the said trap has having a residence time at least equal to one deposition cycle; and
 - a backing pump connected to the said outlet of the said trap and to exhaust.
2. (currently amended) The apparatus of Apparatus as recited in claim 1 wherein the in which said inlet and said outlet are at the top of the said trap.

3. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~2~~ further including comprising: a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.
4. (currently amended) The apparatus of Apparatus as recited in claim 1 wherein ~~the in which~~ said residence time is greater than the said deposition cycle.
5. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~3~~ further including heating means for the ~~in which said trap further comprises:~~
a heater.
6. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~3~~ further including in which said trap further comprises: an electrode in the said trap; and a ground connection to the said trap.
7. (currently amended) The apparatus of Apparatus as recited in claim 1 further including comprising: a surge flow suppresser connected to the said outlet of the said trap.
8. (currently amended) Atomic layer deposition apparatus comprising:
a ~~first and second~~ precursor gas source having a sources, first valve and ~~second valves~~ connected thereto to said first and ~~second precursor gas sources~~;
a second precursor gas source having a second valve connected thereto;
a purge gas source, ~~said purge gas source~~ having a third valve connected thereto; ~~-, said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle,~~
wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;

a reaction chamber, ~~said reaction chamber being connected to the~~ said first, ~~said second,~~ and ~~said third valves;~~

a gas phase reaction trap connected to the said reaction chamber; ~~said~~ the trap having an inlet ~~and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the~~ said trap has having a residence time at least equal to one deposition cycle; and

a backing pump connected to the said outlet of the said trap ~~and to exhaust.~~

9. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ wherein the ~~in which said inlet and the~~ said outlet are at the top of the said trap.

10. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ 9 further including comprising: a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.

11. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ wherein the ~~in which~~ said residence time is greater than the said deposition cycle.

12. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ further including heating means for the ~~in which said trap further comprises:~~ a heater.

13. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ further including in which said trap further comprises: an electrode in the said trap; and a ground connection to the said trap.

14. (currently amended) A method of atomic layer deposition comprising the steps of:

sequentially flowing a first and second precursor gas, a purge gas, a second precursor gas, and a purge gas gases into a reaction chamber, thereby defining a deposition cycle;

~~flowing a purge gas into said reaction chamber after said first and after second precursor gases, the flowing of said first and said second precursor gases and said purge gas forming a deposition cycle; and~~

removing the gaseous effluent from the said reaction chamber to in a gas phase reaction trap; ~~said removing including trapping the gaseous effluent in a trap, said gaseous effluent having a residence time in said trap at least equal to said deposition cycle. and~~

allowing the gaseous effluent to reside in the trap for an time at least equal to the deposition cycle.

15. (currently amended) The method of ~~A method as recited in~~ claim 14 further comprising ~~in which said removing further comprises: pumping the~~ said gaseous effluent with a backing pump after allowing the gaseous effluent to reside in the said trap.

16. (currently amended) The method of ~~A method as recited in~~ claim 14 further comprising ~~in which said removing further comprises: pumping the~~ said gaseous effluent with a process pump prior to the said trap.

17. (currently amended) The method of ~~A method as recited in~~ claim 14 wherein the in which said residence gaseous effluent resides in the trap for a time is greater than the said deposition cycle.

18. (currently amended) Deposition apparatus comprising:

~~a first and second precursor gas source having a source, first valve and second valves connected thereto to said first and second precursor gas sources;~~
~~a second precursor gas source having a second valve connected thereto;~~
~~a purge gas source, said purge gas source having a third valve connected thereto; , said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle;~~
wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;
~~a reaction chamber, said reaction chamber being connected to the said first, said second, and said third valves; and~~
~~a gas phase reaction trap connected to the said reaction chamber; said , the trap having an inlet and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the said trap has having a residence time at least equal to one deposition cycle.~~

19. (currently amended) The apparatus of Apparatus as recited in claim 18 further ~~comprising~~ including a backing pump connected to the said outlet of the said trap and to exhaust.

20. (currently amended) The apparatus of Apparatus as recited in claim 18 wherein the in which said inlet and the said outlet are at the top of the said trap.

21. (currently amended) The apparatus of Apparatus as recited in claim 18 49 further ~~including comprising~~ a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.

22. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 wherein ~~the in which~~ said residence time is greater than the said deposition cycle.

23. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including heating means for the ~~in which said trap further comprises:~~
a heater.

24. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including ~~in which said trap further comprises:~~ an electrode in the said trap; and a ground connection to the said trap.

25. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including ~~comprising:~~ a surge flow suppressor connected to the said outlet of the said trap.